## **WEST Search History**

DATE: Tuesday, November 04, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB = USPT, PG	PB,JPAB,DWPI; PLUR=YES; OP=AD.	J	
L2	L1 and schizophren\$	5	L2
L1	RGS4	26	L1

END OF SEARCH HISTORY

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AU Chowdari K.V.; Mirnics K.; Semwal P.; Wood J.; Lawrence E.; Bhatia T.; Deshpande S.N.; Thelma B.K.; Ferrell R.E.; Middleton F.A.; Devlin B.;
 $%^STN;HighlightOn= ***;HighlightOff=*** ;
                                                                                                                                      Levitt P.; Lewis D.A.; Nimgaonkar V.L.
SO Human Molecular Genetics, (15 Jul 2003) 12/14 (1781).
 Welcome to STN International Enter x:x
                                                                                                                                          ISSN: 0964-6906 CODEN: HMGEE5
                                                                                                                                      CY United Kingdom
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                                                                                                                                     FS 022 Human Genetics
LA English
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 TERMINAL (ENTER 1, 2, 3, OR ?):2
                                                                                                                                      L3 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN
                                                                                                                                      AN 2003:518293 CAPLUS
 ****** Welcome to STN International *******
                                                                                                                                      TI Association and linkage analyses of ***RGS4*** polymorphisms in ***schizophrenia***
                       Web Page URLs for STN Seminar Schedule - N. America "Ask CAS" for self-help around the clock
                                                                                                                                      AU Chowdari, Kodavali V.; Mirnics, Karoly; Semwal, Prachi; Wood, Joel;
  NEWS 1
                                                                                                                                     Lawrence, Elizabeth; Bhatia, Triptish; Deshpande, Smita N.; Thelma, B. K.; Ferrell, Robert E.; Middleton, Frank A.; Devlin, Bernie; Levitt, Pat; Lewis, David A.; Nimgaonkar, Vishwajit L. SO Human Molecular Genetics (2003), 12(14), 1781 CODEN: HMGEE5; ISSN: 0964-6906
  NEWS 2
  NEWS 3 SEP 09 CA/CAplus records now contain indexing from 1907 to the
 present
NEWS 4 AUG 05 New pricing for EUROPATFULL and PCTFULL effective
                August 1, 2003
 NEWS 5 AUG 13 Field Availability (/FA) field enhanced in BEILSTEIN
NEWS 6 AUG 18 Data available for download as a PDF in RDISCLOSURE
NEWS 7 AUG 18 Simultaneous left and right truncation added to PASCAL
NEWS 8 AUG 18 FROSTI and KOSMET enhanced with Simultaneous Left and
                                                                                                                                      PB Oxford University Press
                                                                                                                                     DT Journal; Errata
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  NEWS 9 AUG 18 Simultaneous left and right truncation added to ANABSTR
 NEWS 10 SEP 22 DIPPR file reloaded
NEWS 11 SEP 25 INPADOC: Legal Status data to be reloaded
                                                                                                                                                                                          DUPLICATE 1
                                                                                                                                      AN 2003414730 EMBASE
  NEWS 12 SEP 29 DISSABS now available on STN
                                                                                                                                     TI Recent advances in the genetics of ***schizophrenia*** AU O'Donovan M.C.; Williams N.M.; Owen M.J.
 NEWS 13 OCT 10 PCTFULL: Two new display fields added NEWS 14 OCT 21 BIOSIS file reloaded and enhanced
                                                                                                                                     CS M.J. Owen, Department of Psychological Medicine, Neuropsychiatric Genetics Unit, Univ. of Wales College of Medicine, Health Park, Cardiff CF14 4XN,
 NEWS 15 OCT 28 BIOSIS file segment of TOXCENTER reloaded and enhanced
                                                                                                                                     United Kingdom. owenmj@cf.ac.uk
SO Human Molecular Genetics, (15 Oct 2003) 12/REV. ISS. 2 (R125-R133).
 NEWS EXPRESS OCTOBER 01 CURRENT WINDOWS VERSION IS V6.01a,
 CURRENT
             MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
                                                                                                                                          ISSN: 0964-6906 CODEN: HMGEE5
                                                                                                                                     CY United Kingdom
DT Journal; General Review
FS 005 General Pathology and Pathological Anatomy
022 Human Genetics
032 Psychiatry
LA English
              AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
 NEWS HOURS STN Operating Hours Plus Help Desk Availability NEWS INTER General Internet Information
 NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)
                                                                                                                                     LA English
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                                                                                                                                     AB The high heritability of ***schizophrenia*** has stimulated much work aimed at identifying susceptibility genes using positional genetics. As a result, several strong and well-established linkages have emerged. Three
 Enter NEWS followed by the item number or name to see news on that
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                                                                                                                                         of the best-supported regions are 6p24-22, 1q21-22 and 13q32-34 where single studies have achieved genome-wide significance at P<0.05 and suggestive positive findings have also been reported in other samples. Other promising regions include 8p21-22, 6q21-25, 22q11-12, 5q21-q33, 10p15-p11 and 1q42. Recently, evidence implicating individual genes within
  agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.
                                                                                                                                         some of the linked regions has been reported and more importantly replicated. Currently, the weight of evidence supports NRG1 and DTNBP1 as ***schizophrenia*** susceptibility loci, though work remains before we
  understand precisely how genetic variation at each locus confers susceptibility and protection. The evidence for COMT, ***RGS4*** and
FILE 'HOME' ENTERED AT 17:24:39 ON 04 NOV 2003
 => FIL BIOSIS EMBASE CAPLUS
                                                                                                                                         G72 is promising but not yet persuasive. While it is essential that further replications are established, the respective contributions of each gene, relationships with aspects of the phenotype, the possibility of
COST IN U.S. DOLLARS
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FULL ESTIMATED COST
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                                                                                                                                          epistatic interactions between genes and functional interactions between
                                                                                                                                         the gene products will all need investigation. The ability of positional genetics to implicate novel genes and pathways will open up new vistas for
FILE 'BIOSIS' ENTERED AT 17:24:43 ON 04 NOV 2003
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                                                                                                                                         neurobiological research, and all the signs are that genetic research is poised to deliver crucial insights into the nature of ***schizophrenia***.
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                                                                                                                                     AN 2003407681 EMBASE
TI Toward ***schizophrenia*** genes: Genetics and transcriptome.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
                                                                                                                                     AU Ito C.; Ouchi Y.
=> s RGS4
                                                                                                                                    CS C. Ito, Department of Psychiatry, Tohoku Univ. Grad. Sch. of Medicine,
1-1, Seiryo-machi, Aoba-ku, Sendai, 980-8574, Japan.
          510 RGS4
                                                                                                                                          cito@mail.cc.tohoku.ac.jp
                                                                                                                                    SO Drug Development Research, (1 Oct 2003) 60/2 (111-118).
Refs: 58
=> s I1 and schizophre?
           18 L1 AND SCHIZOPHRE?
                                                                                                                                    ISSN: 0272-4391 CODEN: DDREDK
CY United States
PROCESSING COMPLETED FOR L2
                                                                                                                                     DT Journal; General Review
            12 DUP REM L2 (6 DUPLICATES REMOVED)
                                                                                                                                    FS 022 Human Genetics
032 Psychiatry
                                                                                                                                    LA English
YOU HAVE REQUESTED DATA FROM 12 ANSWERS - CONTINUE? Y/(N):y
                                                                                                                                    SL English
AB ***Schizophrenia*** is highly heritable, and the identification of its
L3 ANSWER 1 OF 12 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL
                                                                                                                                        genetic factors is receiving great attention. In this review, we digested current genetic findings about ***schizophrenia*** At first, DISC-1 and -2 derived from a large Scottish family, and velo-cardio-facial
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   on STN
     2003299456 EMBASE
                                                                                                                                        syndrome caused by microdeletion of 22q11, are not topics in cytogenic studies. Secondly, selections and classifications of samples become the
TI Erratum: Association and linkage analyses of ***RGS4*** polymosphisms in ***schizophrenia*** (Human Molecular Genetics (2002) vol. 11
                                                                                                                                         biggest problems in linkage studies, because many following studies failed
    (1373-1380)).
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to confirm replicated linkages. Thirdly, a lot of functional and/or

positional candidate genes are analyzed. Some genes, including NRG1, DTNBP1, G72, DAAO, \*\*\*\*RGS4\*\*\* , and PRODH2, are recently identified in association studies. In the last method, the novel way to select functional candidate genes with a transcriptome analysis is getting presented. The transcriptome analysis makes it possible to identify upand down-regulated genes from overall transcriptions (mRNAs). We also have an ongoing case-control study about \*\*\*schizophrenia\*\*\*, following serial analysis of gene expression (SAGE), one of the transcriptome analyses. We analyzed changes of gene expressions in methamphetamine- and phencyclidine-treated rodent cerebral cortexes, two well-known animal models of \*\*\*schizophrenia\*\*\* . We identified their homologous 209 human genes as candidates. These findings will bring us new understanding of pathophysiologic aspects and further drug targets toward \*\*\*schizophrenia\*\*\* . .COPYRGT. 2003 Wiley-Liss, Inc.

L3 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN AN 2002:158038 CAPLUS DN 136:214957 TI Expression of the gene for regulator of G-protein signaling 4 as a diagnostic indicator for \*\*\*schizophrenia\*\*\* IN Levitt, Pat R.; Mirnics, Karoly; Kodavali, Venkata Chowdari; Nimgaonkar, Vishwajit L. University of Pittsburgh, USA SO PCT Int. Appl., 112 pp. CODEN: PIXXD2 DT Patent LA English PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2002016653 A2 20020228 WO 2001-US26622 20010824 WO 2002016653 A3 20030703 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZVV, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG AU 2001088416 A5 200020304 AU 2001-88416 20010824 US 2003113721 A1 20030619 US 2001-939209 20010824 PRAI US 2000-228021P P 20000824 WO 2001-US26622 W 20010824 AB A method of diagnosing, assessing susceptibility, and/or treating

WO 2001-US26622 W 20010824

AB A method of diagnosing, assessing susceptibility, and/or treating

\*\*\*schizophrenia\*\*\*\* involving the observation of regulator of G-protein
signaling 4 ( \*\*\*\*PGS4\*\*\*\* ) levels in a subject. Embodiments of the
present invention include increasing \*\*\*RGS4\*\*\* expression levels in
the cortex, either by chem. means or by genetic complementation (e.g. gene
therapy). Microarray anal. of gene expression found that the transcript
for the regulator of G-protein signaling 4 ( \*\*\*\*RGS4\*\*\*\* ) was
consistently present at lowered levels in the prefrontal cortex of all

\*\*\*\*schizophrenic\*\*\*\* subjects examd. Other members of the RGS family did
not show changes in levels and transcripts of genes assocd. with G protein
signaling as a whole were unaffected by the disease. Almost 30 single signaling as a whole were unaffected by the disease. Almost 30 single nucleotide polymorphisms are obsd. in the gene.

L3 ANSWER 6 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN DUPLICATE 3

AN 2002:352532 BIOSIS DN PREV200200352532

TI Association and linkage analyses of \*\*\*RGS4\*\*\* polymorphisms in

AU Chowdari, Kodavali V., Mirnics, Karoly, Semwal, Prachi, Wood, Joel, Lawrence, Elizabeth, Bhatia, Triptish; Deshpande, Smita N.; Thelma B. K.; Ferrell, Robert E.; Middleton, Frank A.; Devlin, Bernie; Levitt, Pat; Lewis, David A.; Nirngaonkar, Vishwajit L. [Reprint author] CS 3811 O'Hara St, Room 443, Pittsburgh, PA, 15213, USA

nimga@pittedu SO Human Molecular Genetics, (1 June, 2002) Vol. 11, No. 12, pp. 1373-1380. print. ISSN: 0964-6906.

DT Article

LA English

ED Entered STN: 26 Jun 2002

Last Updated on STN: 26 Jun 2002

Last Updated on STN: 26 Jun 2002

AB Gene expression analyses of postmortem cerebral cortex suggest that transcription of the regulator of G-protein signaling 4 (\*\*\*RGS4\*\*\*) is decreased in a diagnosis-specific manner in subjects with \*\*\*schizophrenia\*\*\*. To evaluate the possible role of \*\*\*RGS4\*\*\* in the pathogenesis of \*\*\*schizophrenia\*\*\*, we conducted genetic association and linkage studies using samples ascertained independently in Pittsburgh and New Delhi and by the NIMH Collaborative Genetics Initiative. Using the transmission disequilibrium test, significant transmission distortion was observed in the Pittsburgh and NIMH samples. Among single-nucleotide polymorphisms (SNPs) spanning approximately 300 kb, significant associations involved four SNPs localized to a 10 kb region at \*\*\*RGS4\*\*\*, but the associated haplotypes differed. A trend for transmission distortion was also present in the Indian sample for haplotypes incorporating the same SNPs. Consistent with the haplotypes incorporating the same SNPs. Consistent with the linkage/association observed from the family-based tests, samples with

affected siblings (NIMH, India) showed higher levels of allele sharing, identical by descent, at \*\*\*RGS4\*\*\*. When the US patients were contrasted to two population-based control samples, however, no significant differences were observed. To check the specificity of the transmission bias, we therefore examined US families with bipolar I discrete (ADM) probable. This sample also showed a trend for transmission transmission bias, we theretore examined up armilles with pipolar i disorder (BD1) probands. This sample also showed a trend for transmission distortion, and differed significantly from the population-based controls for the four-SNP haplotypes tested in the other samples. The transmission distortion is unlikely to be due to chance, but its mechanism and specificity require further study. Our results illustrate the potential power of combining gene expression profiling and genomic analyses to identify susceptibility genes for genetically complex disorders.

L3 ANSWER 7 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN AN 2003:35175 BIOSIS

AN 2003:33175 BIOSIS

DN PREV200300035175

TI Current progress in \*\*\*schizophrenia\*\*\* research. Application of emerging "gene chip" technologies in search of genes.

AU Thaker, Gunvant K. [Reprint Author]

CS Maryland Psychiatric Research Center, Department of Psychiatry, University of Maryland School of Medicine, P.O. Box 21247, Baltimore, MD, USA SO Journal of Nervous and Mental Disease, (November 2002) Vol. 190, No. 11,

pp. 781, print. ISSN: 0022-3018 (ISSN print).

DT Article Editorial

LA English ED Entered STN: 8 Jan 2003 Last Updated on STN: 8 Jan 2003

L3 ANSWER 8 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS

AN 2002:627258 BIOSIS

DN PREV200200627258

TI Association and linkage analyses of \*\*\*RGS4\*\*\* polymorphisms in 
\*\*\*schizophrenia\*\*\*.

AU Chowdari, K. V. [Reprint author]; Mirnics, K. [Reprint author]; Sernwal, P.; Wood, J. [Reprint author]; Lawrence, E.; Bhatia, T.; Deshpande, S. N.; Thelma, B. K.; Ferrell, R. E.; Middleton, F. A.; Devlin [Reprint author]; Levitt, P.; Lewis, D. A. [Reprint author]; Nimgaonkar, V. L. [Reprint authorl

authorj

CS Department of Psychiatry, University of Pittsburgh, Pittsburgh, PA, USA

SO American Journal of Medical Genetics, (October 8, 2002) Vol. 114, No. 7, pp. 733-734, print.

Meeting Info.: Xth World Congress of Psychiatric Genetics. Brussels, Belgium, October 09-13, 2002. International Society of Psychiatric Genetics.

ISSN: 0148-7299.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English ED Entered STN: 12 Dec 2002 Last Updated on STN: 12 Dec 2002

L3 ANSWER 9 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN AN 2002:624880 BIOSIS

DN PREV200200624880

TI Association and linkage analyses of \*\*\*rgs4\*\*\* polymorphisms in \*\*\*schizophrenia\*\*\*.

AU Kodavali, V. C. [Reprint author]; Karoly, M. [Reprint author]; Prachi, S.; Wood, J. [Reprint author]; Lawrence, E.; Bhatia, T.; Deshpande, S. N.; Thelma, B. K.; Ferrell, R. E.; Middleton, F. A.; Devlin, B. [Reprint author]; Levitt, P.; Lewis, D. A. [Reprint author]; Nimgaonkar, V. L [Reprint author]

CS Department of Psychiatry, University of Pittsburgh, Pittsburgh, PA, USA SO American Journal of Human Genetics, (October, 2002) Vol. 71, No. 4 Supplement, pp. 459. print.

Meeting Info.: 52nd Annual Meeting of the American Society of Human Genetics. Baltimore, MD, USA. October 15-19, 2002. American Society of Human Genetics.

CODEN: AJHGAG, ISSN: 0002-9297.

DT Conference; (Meeting) Conference; Abstract; (Meeting Abstract)

LA English ED Entered STN: 12 Dec 2002 Last Updated on STN: 12 Dec 2002

L3 ANSWER 10 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN AN 2003:325835 BIOSIS

POSTMORTEM BRAIN SECTIONS.

AU Lahti, R. A. [Reprint Author]; Erdely, H. A. [Reprint Author]; Lopez, M. B. [Reprint Author]; Roberts, R. C. [Reprint Author]; Tamminga, C. A.

CS Maryland Psychiat Res Ctr, Baltimore, MD, USA
SO Society for Neuroscience Abstract Viewer and Itinerary Planner, (2002)
Vol. 2002, pp. Abstract No. 703.2. http://sfn.scholarone.com. cd-rom.
Meeting Info.: 32nd Annual Meeting of the Society for Neuroscience.

Orlando, Florida, USA. November 02-07, 2002. Society for Neuroscience. DT Conference; (Meeting) Conference; (Meeting Poster)

Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 16 Jul 2003

Last Updated on STN: 16 Jul 2003

AB RGS proteins are found throughout the body and are well distributed in the brain. There are about 20 RGS proteins, which are Regulators of G-protein Signaling. They enhance the rate of inactivation of the active form of Signaling. They enhance the rate of inactivation or the active form of the G proteins, by dramatically increasing the rate of hydrolysis of GTP to GDP. Of special interest was the finding that \*\*\*RGS4\*\*\* mRNA levels were decreased in the PFC of postmortem brain tissue obtained from \*\*\*schizophrenic\*\*\* subjects compare to normal controls (Mirnics, 2001). A more extensive distribution of \*\*\*RGS4\*\*\* mRNA has not been conducted in human postmortem tissue, and that is the aim of this study. The distribution and density of \*\*\*RGS4\*\*\* mRNA was determined in hemicoronal (Talairach sections +8 and -20) brain sections using in situ hybridization techniques. Highest levels were found in the more frontal sections (Talairach +8) and specifically in the Inf. frontal ctx (73 nCi/gm), the sup. frontal ctx (71), the cingulate ctx (63); followed by the insular ctx and inf. temp ctx (51). The caudate (16), putamen (8.6) and nuc. acc. (3.5) had much lower levels. At Talarirch region -20, the cortical layers had the highest density (64.6 to 57.5), the parahippocampal gyrus had a density of 37.8, the CA-pyramidal region 16.3, and the thalamus was very low with a density of 2.3 nCi/gm. In the frontal cortex a dark band appears at one of the inner layers of the cortex. In conclusion, \*\*\*RGS4\*\*\*\* mRNA distribution in human postmortem tissue from normal controls was found to be very dense in most cortical layers, with much lower amounts in the basal ganglia and thalamus. This information will be used to guide a broad comparison between \*\*\*schizophrenic\*\*\* and normal control brain tissue.

L3 ANSWER 11 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS

AN 2001:391331 BIOSIS

DN PREV200100391331

Analysis of complex brain disorders with gene expression microarrays:

\*\*\*Schizophrenia\*\*\* as a disease of the synapse.

AU Mirnics, Karoly [Reprint author]; Middleton, Frank A.; Lewis, David A.;

CS Depts of Psychiatry, Neurobiology and PittArray, University of Pittsburgh School of Medicine, Pittsburgh, PA, 15261, USA plevitt+@pitt.edu

SO Trends in Neurosciences, (August, 2001) Vol. 24, No. 8, pp. 479-486.

print. CODEN: TNSCDR. ISSN: 0166-2236.

DT Article

General Review: (Literature Review) English

ED Entered STN: 15 Aug 2001

Last Updated on STN: 22 Feb 2002

AB The level of cellular and molecular complexity of the nervous system creates unique problems for the neuroscientist in the design and implementation of functional genomic studies. Microarray technologies can be powerful, with limitations, when applied to the analysis of human brain disorders. Recently, using oDNA microarrays, altered gene expression patterns between subjects with \*\*\*schizophrenia\*\*\* and controls were shown. Functional data mining led to two novel discoveries: a consistent decrease in the group of transcripts encoding proteins that regulate presynaptic function; and the most changed gene, which has never been previously associated with \*\*\*schizophrenia\*\*\*, regulator of G-protein signaling 4. From these and other findings, a hypothesis has been formulated to suggest that \*\*\*schizophrenia\*\*\* is a disease of the synapse. In the context of a neurodevelopmental model, it is proposed that impaired mechanics of synaptic transmission in specific neural circuits during childhood and adolescence ultimately results in altered synapse formation or pruning, or both, which manifest in the clinical

L3 ANSWER 12 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

DUPLICATE 4

AN 2002:221639 BIOSIS DN PREV200200221639

Disease-specific changes in regulator of G-protein signaling 4 (
\*\*\*RGS4\*\*\* ) expression in \*\*\*schizophrenia\*\*\*

AU Mirnics, K. [Reprint author]; Middleton, F. A.; Stanwood, G. D.; Lewis, D.

CS Dept of Psychiatry, University of Pittsburgh, E1602 BST, Pittsburgh, PA, 15261. USA

karoly+@pitt.edu

SO Molecular Psychiatry, (May, 2001) Vol. 6, No. 3, pp. 293-301. print. ISSN: 1359-4184.

DT Article

LA English ED Entered STN: 3 Apr 2002

Last Updated on STN: 3 Apr 2002

AB Complex defects in neuronal signaling may underlie the dysfunctions that characterize \*\*\*schizophrenia\*\*\*. Using cDNA microarrays, we discovered that the transcript encoding regulator of G-protein signaling 4 ( \*\*\*RGS4\*\*\* ) was the most consistently and significantly decreased in the prefrontal cortex of all \*\*\*schizophrenic\*\*\* subjects examined.

The expression levels of ten other RGS family members represented on the

The expression levels of ten other RGS family members represented on the microarrays were unchanged and hierarchical data analysis revealed that as a group, 274 genes associated with G-protein signaling were unchanged. Quantitative in situ hybridization verified the microarray \*\*\*RGS4\*\*\* data, and demonstrated highly correlated decreases in \*\*\*RGS4\*\*\* expression across three cortical areas of ten subjects with \*\*\*schizophrenia\*\*\*. \*\*\*RGS4\*\*\*\* expression was not altered in the prefrontal cortex of subjects with major depressive disorder or in monkeys treated chronically with haloperidol. Interestingly, targets for 70 genes mapped to the major \*\*\*schizophrenia\*\*\* susceptibility locus 1q21-22 were present on the microarrays, of which only \*\*\*RGS4\*\*\* gene expression was consistently altered. The combined data indicate that a decrease in \*\*\*RGS4\*\*\* expression may be a common and specific feature of \*\*\*schizophrenia\*\*\*, which could be due either to genetic factors or a disease-specific adaptation, both of which could affect neuronal signaling. signaling.

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#### Hale, Mary

From:

Qian, Celine

Sent:

Tuesday, November 04, 2003 3:51 PM

To:

Hale, Mary

Subject:

RE: problem with search request for SN 09/939209

Please change the search strategy to the following: search 1-1000, 3000-5000, 10000-10500, 15000-15500, 19800-20300. Thank you.

Celine Qian Art Unit 1636 CM1-11C-01 703-306-0283

----Original Message----

rom: Hale, Mary∮

Sent: Tuesday, November 04, 2003 3:20 PM

To: Qian, Celine; Martinell, James

Subject: FW: problem with search request for SN 09/939209

Dear Examiner Qian -

You submitted a search request for SN 09/939209 Seq. 3 of that search has 20,300 residues, which is longer than our limit of 10,000 residues per sequence.

Your request has been been cancelled. Please meet with Jim Martinell. He will review your search request and will offer suggestions for modifying the search to optimize the processing time. Once you and he have met and made appropriate changes, please resubmit the search request so we can process your request immediately.

Thank you,

Mary Hale - Information Branch Supervisor 308-4258



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Mary Hale, Information Branch Supervisor 308-4258, CM1-1E01

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	☐ 102 rejection
	☐ 103 rejection
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	Helped examiner better understand the invention.
	Helped examiner better understand the state of the art in their technology.
	Types of relevant prior art found:
	Foreign Patent(s)
	Non-Patent Literature (journal articles, conference proceedings, new product announcements etc.)
×	Relevant prior art not found:
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	Results were not useful in determining patentability or understanding the invention.
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Pending Nucleic Acid and Pending Amino Acid database searches generate two sets of results each. The Pending databases have been split into two parts to reduce the amount of time required for their daily updates. This results in more machine time being available for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions .rnpm and .rnpn

Searches run against the Amino Acid Pending database produce two sets of results, with the extensions .rapm and .rapn

Because they contain data that is confidential, the results of Pending database searches should not be left in the case.